

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE J	PAGE OF PAGES 1 2
2. AMENDMENT/MODIFICATION NO. 0005		3. EFFECTIVE DATE 29 April 2004	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)	
6. ISSUED BY U.S. ARMY ENGINEER DISTRICT, ALBUQUERQUE CORPS OF ENGINEERS 4101 JEFFERSON PLAZA, N.E. ALBUQUERQUE, NEW MEXICO 87109-3435		CODE	7. ADMINISTERED BY (If other than Item 6) CODE		
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)			(<input checked="" type="checkbox"/>)	9A. AMENDMENT OF SOLICITATION NO. W912PP-04-R-0011	
			<input checked="" type="checkbox"/>	9B. DATED (SEE ITEM 11) 18 March 2004	
				10A. MODIFICATION OF CONTRACTS/ORDER NO.	
				10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE			

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☒ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(<input checked="" type="checkbox"/>)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

PROJECT: DESIGN/BUILD, ARSENIC TREATMENT SYSTEMS, KIRTLAND AIR FORCE BASE, BERNALILLO COUNTY, NEW MEXICO

1. This is Amendment No. 5 to Solicitation No. W912PP-04-R-0011; 18 March 2004. The following revisions shall be incorporated into the specifications. All other provisions shall remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY (Signature of Contracting Officer)	

2. SPECIFICATIONS: Delete the following listed pages and substitute the pages attached hereto. On the revised pages, for convenience, changes are emphasized by the amendment number in parentheses before and after changes from the previous issue. All portions of the revised (or new) pages shall apply whether or not changes have been indicated.

<u>Delete Page</u>	<u>Insert Page</u>
<u>Volume 1 of 3</u>	
01010-8	01010-8
01010-10 thru 01010-11	01010-10 thru 01010-11
01010-13b	01010-13b
<u>Volume 3 OF 3</u>	
Appendix N, Diagram 1	Appendix N, Diagram 1
Appendix N, Sequence No. 56	Appendix N, Sequence No. 56
Appendix N, Sequence No. 57	Appendix N, Sequence No. 57

/////////LAST ITEM/////////

- (2) station. The line shall be of sufficient capacity to fill the two 1MG tanks while these tanks are supplying the booster station pumps at maximum booster station output. The Contractor shall determine the optimum size for this line based on the hydraulic conditions required to transfer the water between the new blending tank and the two existing 1MG ground storage tanks. The new transfer line shall connect the outlet of the new blending tank to the existing 18-inch water line currently used for filling the two existing 1MG ground storage tanks. This 18-inch line, which is shown just west of the two 1MG tanks on Figure B-2 of the *KAFB Drinking Water Blending Feasibility Study* conveys flow from wells 1, 2, and 4 to fill the two existing 1MG ground storage tanks. The new transfer line shall connect to the existing 18-inch line at a point upstream (to the west) of the existing concrete meter vault that exists upstream of the location where the 18-inch line splits to individually fill the two existing tanks. **Note: Figure B-2 of the *KAFB Drinking Water Blending Feasibility Study* incorrectly shows a line connecting the blending tank to the nearest, existing ground storage tank only, which is incorrect.** See Diagram 1 in Appendix N for a conceptual view of the blending tank transfer line. A hand wheel operated isolation valve housed in a valve vault shall be provided on the new transfer line so that this line can be closed if desired by the water system operators. A means for automatically stopping the flow from the new blending tank to the existing ground storage tanks when these tanks are full shall be provided to prevent overflow at the existing ground tanks. The method for stopping the flow will depend on whether gravity is utilized or pumping is provided for water transfer between tanks. If an altitude or other valve is used for automatic flow stoppage to the blending tank it shall be housed in a concrete valve vault.
- (5)
- (2)

3.7.2.5 New Blending Tank Security Fencing. A chain link fence with 6-ft fabric height and outriggers with 3-strands of barbed wire shall be provided at the tank site to enclose the new tank and chlorination station. A 12-foot wide double swing gate shall be provided for vehicle access to the tank and, for personnel access, a 3-foot wide swing gate shall be provided. The gates shall be provided with locks. The fencing, gates and locks shall meet the requirements in guide specification 02821 - Fencing.

- (5) **3.7.3 New City of Albuquerque (COA) Water Diversion Line.** A new 16-inch water line shall be provided for blending of City of Albuquerque water with Base well water in the new blending tank. The new 16-inch line shall be connected by tee to an existing 14-inch line that connects the Base distribution system to the City water system. The existing 14-inch line runs parallel to Gibson Blvd on the north side of the street. The existing connection to the City system is located at the northeast corner of the Gibson and Louisiana Blvd intersection. The connection to the existing 14-inch line shall be made just east of the existing pump and metering station identified as building 20183 on Figure B-2 of the *KAFB Drinking Water Blending Feasibility Study*. **Note: the location of the required new connection, shown on Figure B-2 of the Study, is incorrect.** The new tee connection shall be valved so that flow from the City system can be diverted either to the new blending tank or into the distribution system as is currently done. The new diversion valves shall be of the same nominal diameter as the line on which they are installed. The existing flow meter located at the metering station (Bldg 20183) shall be connected to the SCADA system for remote monitoring, by the Base, of the flow from the City
- (5)

Study from the vicinity of Gibson Blvd and San Pablo St to the intersection of K Avenue and Pennsylvania St. From the K Avenue and Pennsylvania St intersection the 18-inch line shall continue south to the vicinity of the M Avenue and Pennsylvania St intersection. **Note: This routing is different than that shown on Figure B-2 of the KAFB Drinking Water Blending Feasibility Study.** See Diagram 1 in Appendix N for a conceptual diagram of the new routing. In the vicinity of the M Avenue and Pennsylvania St intersection the new 18-inch line will connect with the new 20-inch collection line for wells 14, 15, and 16 mentioned below.

(2)

3.7.4.3 **New Collection Lines for Wells 14, 15, and 16.** Currently, water from wells 14, 15, and 16 is disinfected at each well site then direct-injected into the distribution system near each well site. As part of this project, water from these wells shall be collected and diverted to the new 2MG blending tank. A 14-inch line shall be constructed to convey flows from well 14 to the vicinity of the current discharge location, into the distribution system, of well 15. At this location, the 14-inch line shall be increased to an 18-inch line and the existing discharge line of well 15 shall be connected to the new 18-inch line. The new 18-inch line shall be constructed from this point to carry the combined flows from wells 14 and 15 to the vicinity of well 16. At well 16 the 18-inch line shall be increased to a 20-inch line and the existing discharge line from well 16 shall be connected to the new 20-inch line. The new 20-inch line shall convey the combined flow from wells 14, 15, and 16 from the vicinity of well 16 to the vicinity of the intersection of Pennsylvania St and M Avenue. **Note: Although the new 20-inch line is shown on Figure B-2 of the KAFB Drinking Water Blending Feasibility Study to follow Ridgecrest Ave through the Zia park housing area, this line shall be routed around and outside the housing area to the south of the housing area.** At the M Avenue and Pennsylvania St intersection the new 20-inch line will be connected to the new 18-inch line carrying the combined flows from the new City water diversion line and well 3 and increased to a 24-inch line. The new 24-inch line will convey flow to the new blending tank as shown conceptually on Diagram 1 in Appendix N. **Note: Routing of the new 24-inch line described here and shown on Diagram 1 is different than the routing shown on Figure B-2 of the KAFB Drinking Water Blending Feasibility Study.** New valves shall be provided at the connection points of wells 14, 15, and 16 with the new well collection line so that flow from these wells can be diverted into either the new collection line or, in an emergency, direct-injected into the distribution system as is currently done. The valves shall be hand wheel operated and installed within concrete valve vaults. These valve vaults shall have lockable covers as required in paragraph: **Valve Vaults** below to prevent unauthorized persons from gaining access to the vaults and operating the valves.

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(5)

(2)

3.7.5 **Auxiliary Water Diversion Line.** The Contractor shall install an 18-inch auxiliary water diversion line as shown conceptually on Diagram 1 in Appendix N. This line will give Base water system operators additional flexibility in operating the system. The Contractor shall determine the optimal routing of this line.

3.7.6 **Pump Station Upgrade.** The reconfiguration of the discharge points of wells 3, 14, 15, and 16 from direct injection into the distribution system to discharge through the main booster station pumps, as part of this project,

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will require the replacement of the four existing pumps in the main booster station with larger capacity pumps. Note: the word "pump" in this section of the RFP refers to the assembly that includes the pump, pump motor, and miscellaneous equipment that comprises a complete pump system. The new, larger capacity pumps shall be the same type as those currently installed in the pump station. Each of the four existing pumps is a 100-hp, vertical turbine type pump mounted to the floor of the main booster station.

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See the appendix for the pump curves for the existing pump station booster pumps. The Contractor shall determine the required capacity of the new main booster station pumps. The new pumps shall be selected so that they will be capable of pumping the maximum daily demand, for the Base, into the distribution system within a 24-hour period, with no more than three pumps concurrently in operation. The maximum daily demand that shall be used to size the pumps is 7 million gallons per day. The four new booster pumps shall be of equivalent capacity. In conjunction with the replacement of the booster pumps, the Contractor shall upgrade piping, fittings, and any miscellaneous equipment, as required, for the satisfactory and complete installation of the pumps. The inlet piping from the two existing 2 MG ground storage tanks to the pumps and the outlet piping from the pumps to the 20-inch trunk line in Texas St shall be evaluated for their adequacy to convey the maximum daily demand. Any of this piping that is determined, based on calculations, to be inadequate shall be replaced as part of this project. In addition, the Contractor shall upgrade associated electrical equipment at the main booster station, as required, to adequately control and supply power to the new pumps. See paragraph ELECTRICAL DESIGN for electrical system upgrade requirements for this project. An hour meter shall be installed on each new pump/motor assembly. The existing Cla-Val pilot-operated, booster pump control valves, currently installed on the outlet side of each of the four existing booster pumps are newly installed. These valves shall be reused if it is determined by a representative of Cla-Val that they will operate satisfactorily with the new booster pumps selected by the Contractor. The Contractor shall provide a certification from Cla-Val that the valves are suitable for re-installation with the new pumps.

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(2) 3.7.7 **Pumps.** Water pumps installed in this project shall be in accordance with specification section 11211 - PUMPS: WATER, CENTRIFUGAL. Pump impellers and wearing rings shall be bronze. Pumps shall have mechanical seals.

(2)

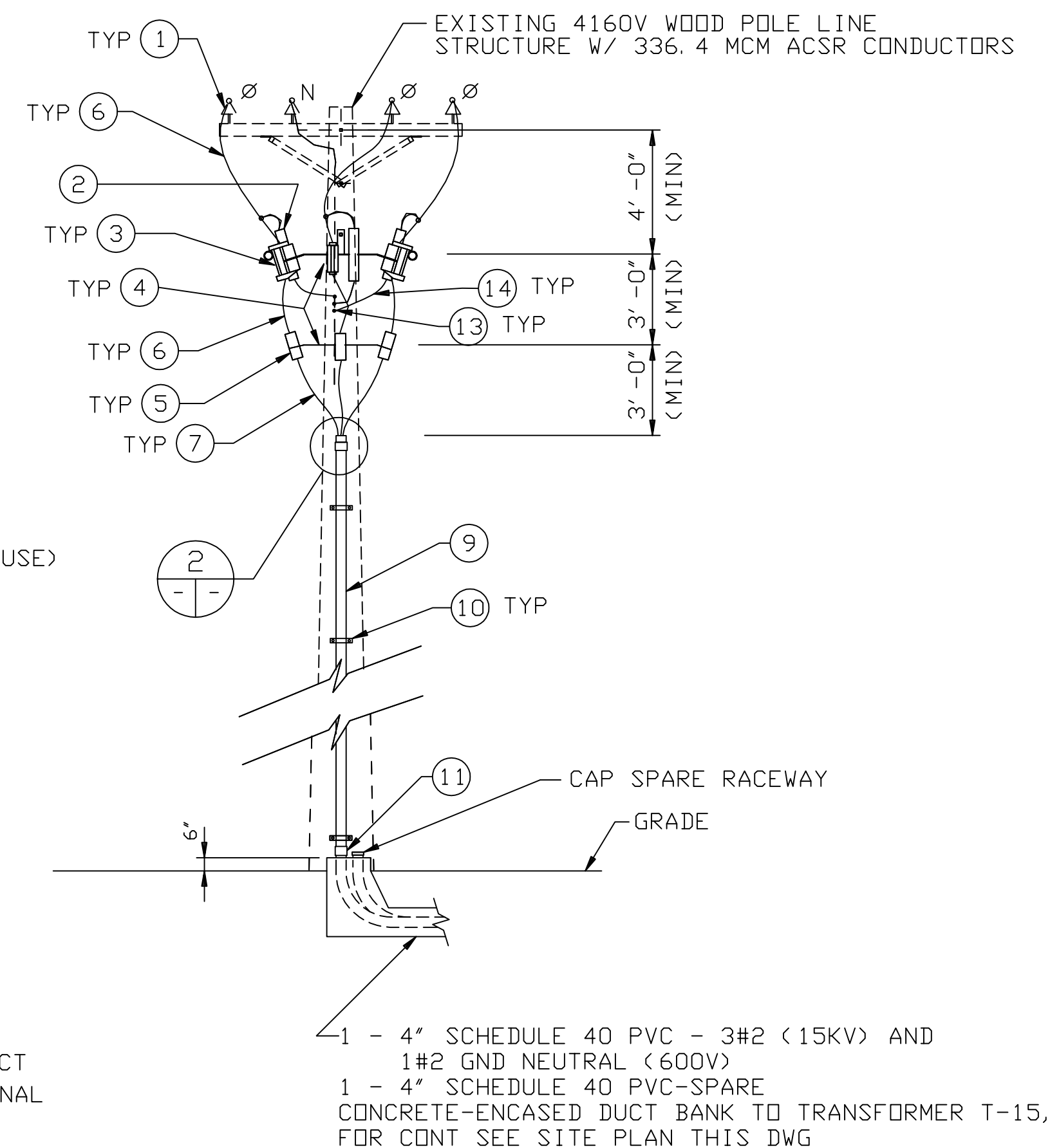
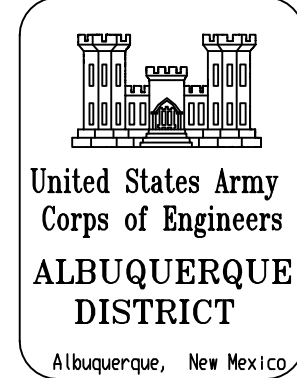
(2) 3.7.8 **Auxiliary Booster Pump Station.** This paragraph describes the requirements for the design and construction of an auxiliary booster pump station adjacent to the new 2MG blending tank. The Contractor shall design and construct an auxiliary booster pump station adjacent to the blending tank to provide an alternative method of pumping water from the blending tank into the distribution system. The booster station shall be designed to pump water from the new 2MG blending tank outlet into the 20-inch trunk water line that runs parallel to Texas St. The new booster pump shall be of the same type and capacity as one of the four new pumps that are to be provided by the Contractor to replace the pumps in the pump station. To minimize pressure surges when the pump is operated the Contractor shall install, immediately downstream of the pump, a pilot-operated, solenoid controlled, booster pump control valve with built-in check valve. The auxiliary booster pump station shall include

3.17 **Water Line Bends.** The alignment of water lines shall be designed to keep the number of bends installed on the water lines to a minimum. Horizontal bends shall not exceed 90 degrees while vertical bends shall not exceed 22.5 degrees.

- (5) 3.18 **Valves.** Unless otherwise indicated in the RFP, diversion and isolation valves shall be buried gate or butterfly valves designed for this type of installation. Gate valves shall be in accordance with AWWA C500 and butterfly valves shall be in accordance with AWWA C504. Valves shall be in accordance with guide specification 02510, except that direct burial of mechanical-end butterfly valves larger than 10 inches will be allowed. Valves shall be of the same nominal diameter as the water line on which they are installed unless otherwise indicated in the RFP. Isolation valves shall be provided, unless otherwise indicated, on all new water lines in this project at an interval not to exceed 500 feet. Valve boxes over the new buried valves shall have locking covers to prevent unauthorized operation of the valves. Buried valves shall be equipped with 2-inch square, standard AWWA operating nuts. Butterfly valves shall be equipped with actuators suitable for buried installation.

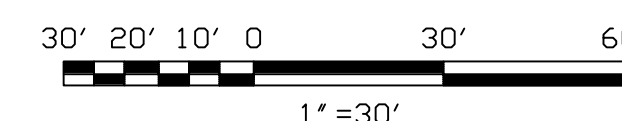
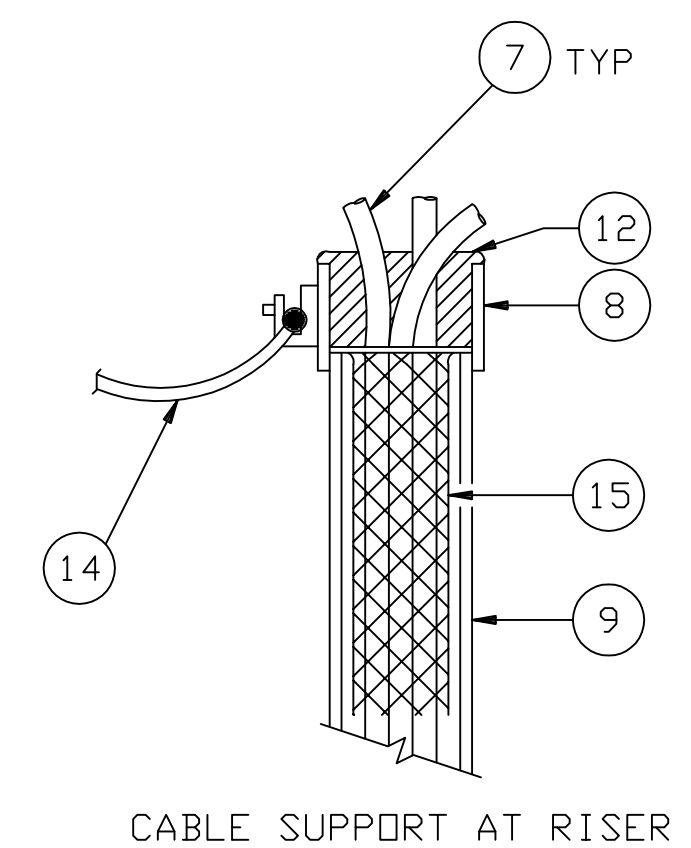
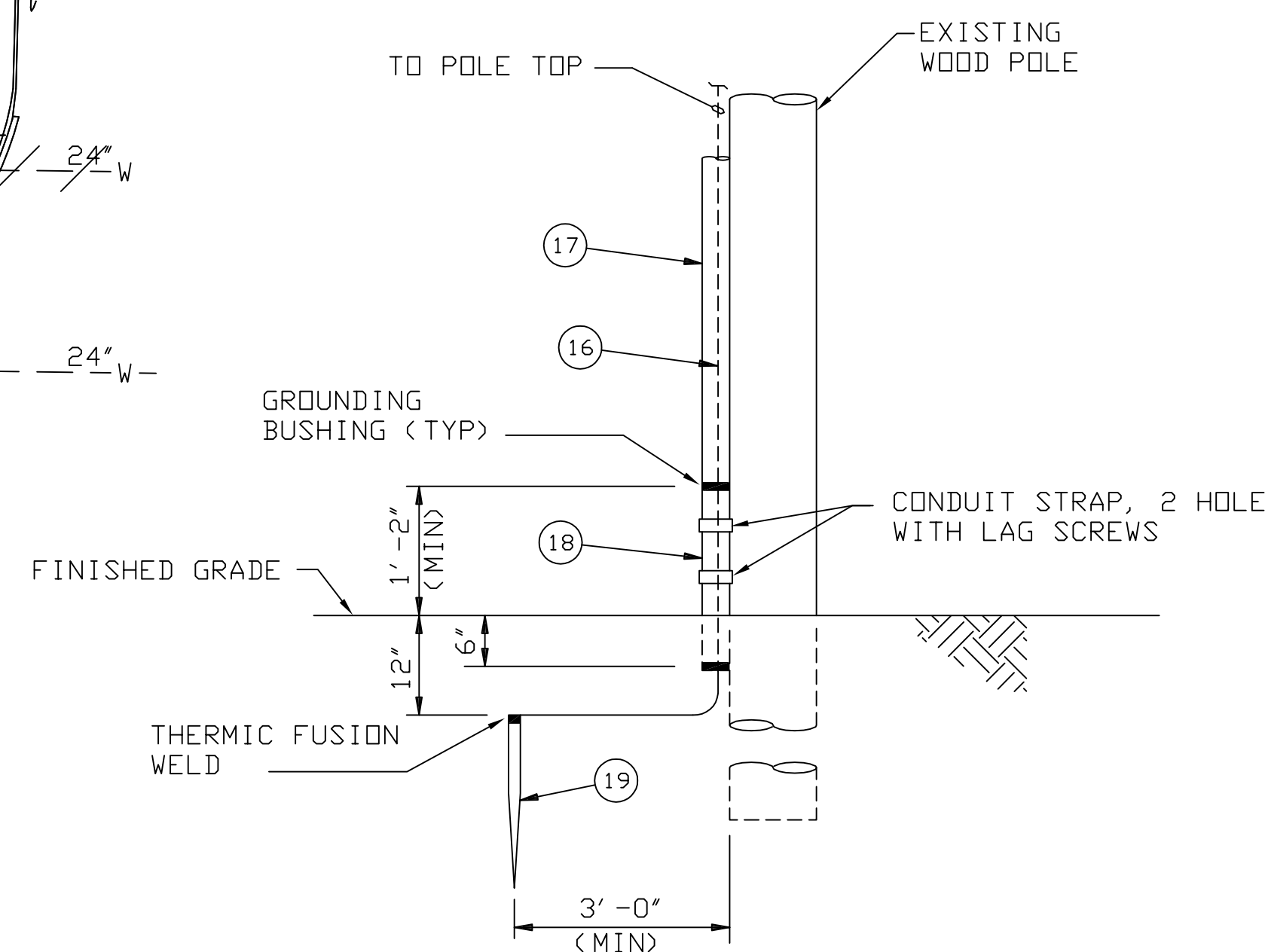
(5)



3.19 **Valve Vaults.** Valve vaults shall be constructed of reinforced concrete walls and floor in accordance with the requirements in paragraph STRUCTURAL



1. FOR DRAWING LIST, SEE DWG G1.
2. FOR ELECTRICAL LEGEND AND GENERAL NOTES, SEE DWG E1.
3. FOR POWER ONE LINE DIAGRAM, SEE DWG E2. FOR WELL NO. 15 PLANS, SEE DWGS E5 THROUGH E7.
4. FOR EXACT DUCT BANK ROUTING AND PADMOUNT TRANSFORMER LOCATION, SEE THE CIVIL DRAWINGS. PROVIDE TWO ADDITIONAL 4-INCH PVC SPARES AT ROADWAY CROSSING, CAP 5 FEET FROM EDGE OF PAVEMENT. DUCT BANK SHALL BE REINFORCED UNDER ROADWAY.

- 1 HOT LINE CLAMP, W/ STIRRUP.
- 2 OHIO BRASS PDV-100 ARRESTER OR EQUAL, HEAVY-DUTY, METAL OXIDE DISTRIBUTION CLASS, 3KV RATED, 2.55KV MCOV, COMPLETE WITH ALL MOUNTING HARDWARE.
- 3 S&C TYPE "XS" OPEN DISTRIBUTION FUSED CUTOUT, 15KV, 95KV BIL, WITH 100 AMPERE FUSE HOLDER AND 25 AMPERE STANDARD SPEED FUSE LINK, COMPLETE WITH ALL MOUNTING HARDWARE.
- 4 MOUNTING BRACKET ASSEMBLIES FOR CABLE TERMINATORS, CUTOUTS, AND ARRESTERS.
- 5 JOSLYN NO. J9280 15KV CABLE TERMINATOR OR EQUAL.
- 6 #2 AWG BARE COPPER JUMPER WIRE.
- 7 15KV POWER CABLE TYPE MV-90, #2 AWG, 7- STRAND SINGLE CONDUCTOR, ANNEALED COPPER, CONDUCTOR AND INSULATION SHIELDED, 133% INSULATION LEVEL, EPR.
- 8 THREADED CONDUIT GROUNDING BUSHING WITH SOLDERLESS LUG.
- 9 4-INCH RGS CONDUIT.
- 10 2 HOLE STRAPS WITH LAG BOLTS AT 6'-0" CENTERS.
- 11 4-INCH RGS TO PVC CONDUIT ADAPTER, ADAPTER RGS.
- 12 SEALANT.
- 13 COMPRESSION, SPLIT-BOLT, OR PARALLEL GROOVE CONNECTOR - SIZE AND TYPE AS REQUIRED.
- 14 #4 AWG, BARE COPPER GROUND WIRE, CONNECT TO NEW POLE GROUNDING SYSTEM (SEE DETAIL THIS DWG).
- 15 CABLE GRIP.
- 16 POLE GROUNDING CONDUCTOR #4 AWG ANNEALED BARE COPPER, ATTACH TO WOOD POLE WITH STAPLES.
- 17 POLE GROUNDING CONDUCTOR GUARD, EXTEND 7'-0" AFG (MIN).
- 18 CONDUIT 3/4" RGS WITH GROUNDING BUSHINGS EACH END.
- 19 GROUND ROD 5/8"x10'-0" LONG COPPERCLAD STEEL.

[illegible]

DESIGN BY:	File Name:	
MDM/JLB	K726E03.DWG	
DRAWN BY:	Plot Scale:	Date:
	1=30	
LEN	DACA47-96-C-0013	
REVIEWED BY:		
RCT		

BLACK & VEATCH
SPECIAL PROJECTS CORP
OVERLAND PARK, KANSAS 66211

R. J. ROENNIGKE

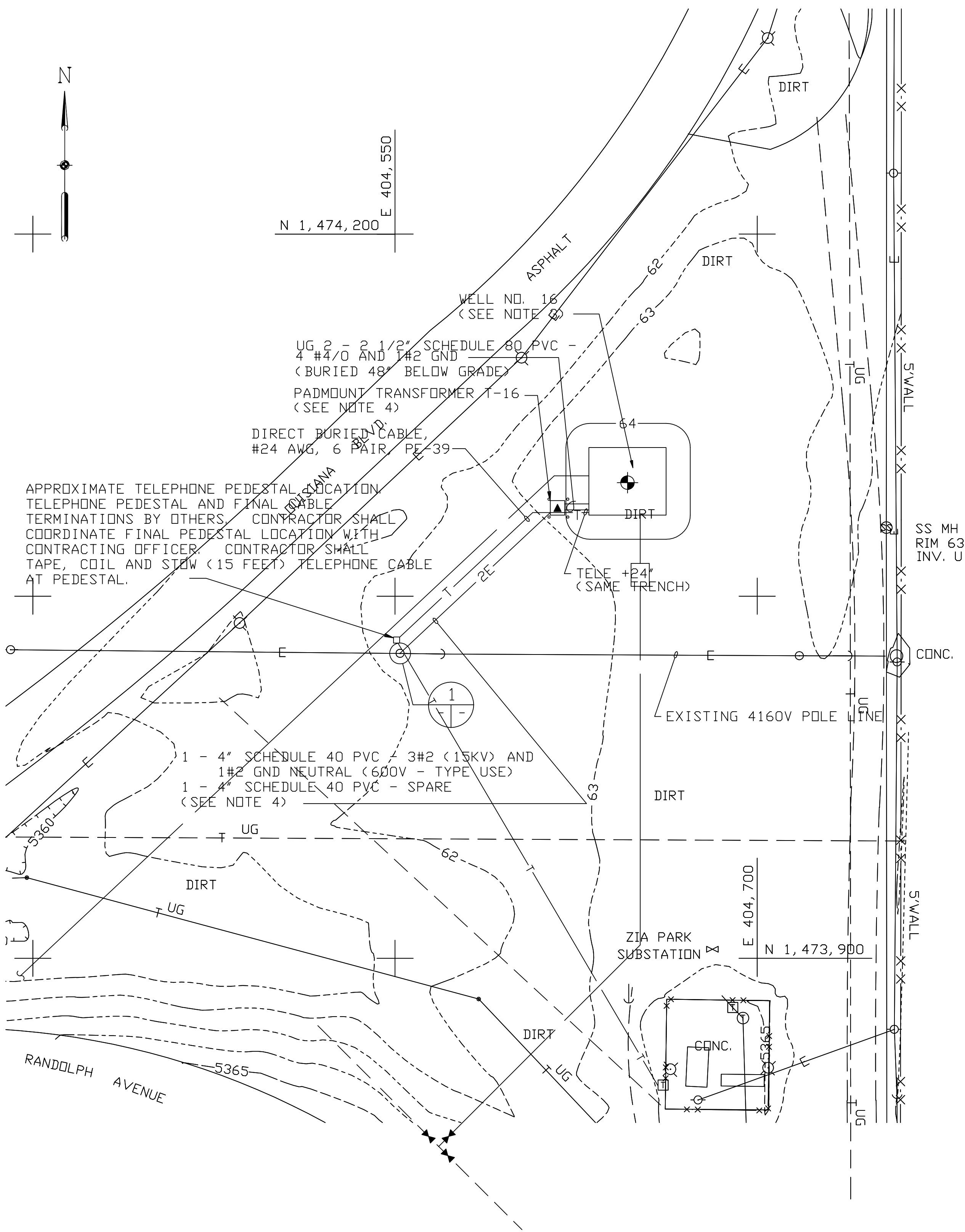
SUBMITTED BY:

KIRTLAND AIR FORCE BASE
ADAL BASE WATER SYSTEM
ALBUQUERQUE, NEW MEXICO

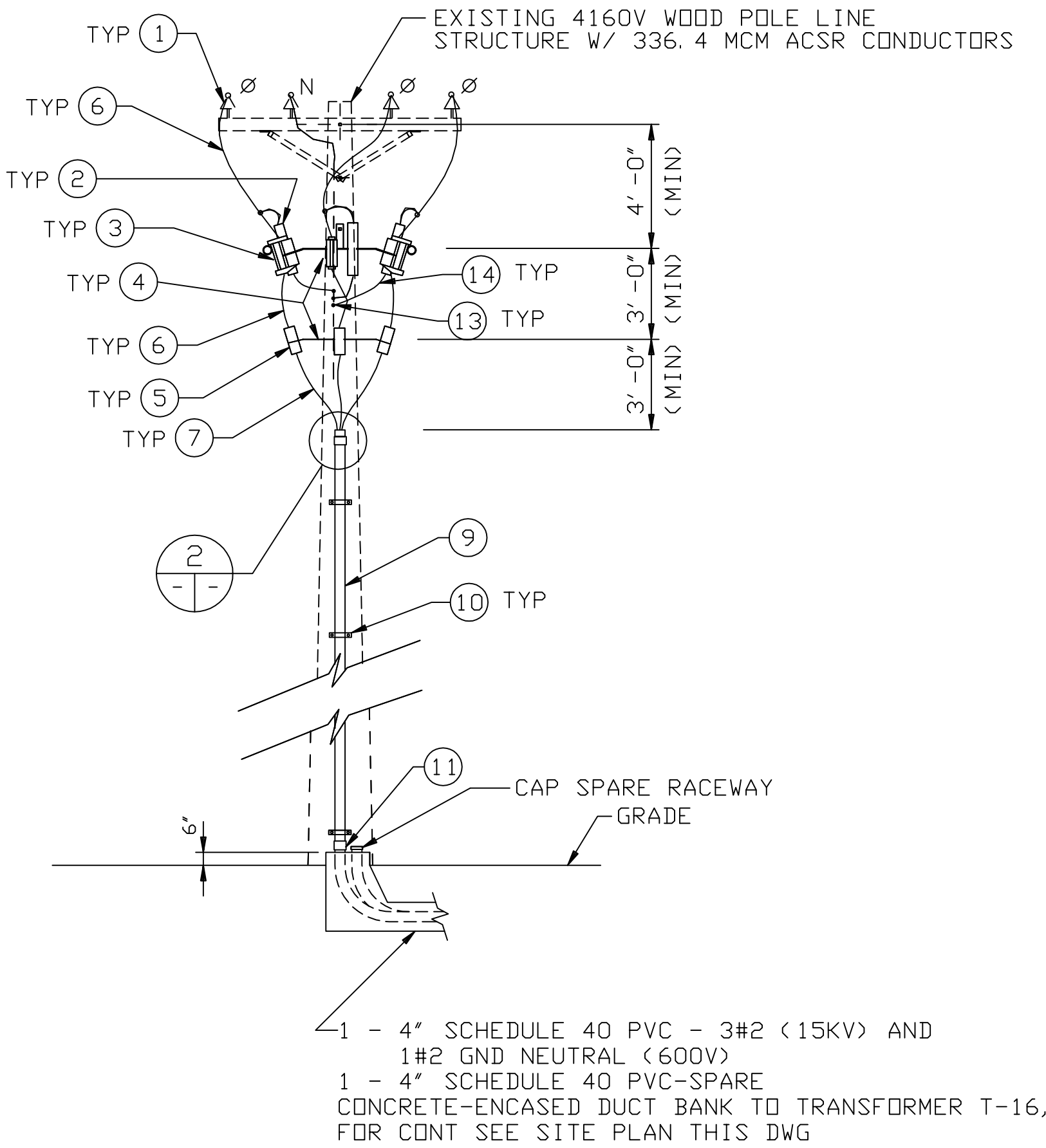
WELL NO. 15 SITE PLAN

SHEET NO.
E3 OF 110

SEQUENCE
NO.

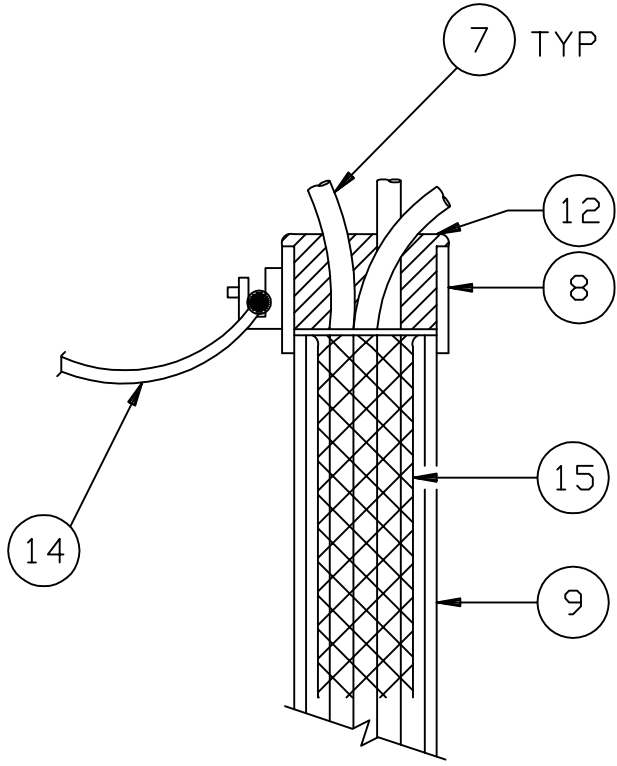


WELL NO. 16 SITE PLAN
SCALE: 1"=30'



SERVICE RISER POLE LOOKING WEST

DETAIL
SCALE: NONE



CABLE SUPPORT AT RISER

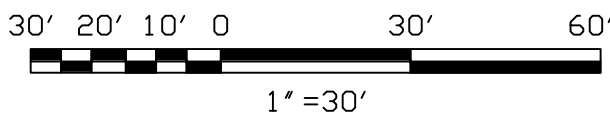
DETAIL
SCALE: NONE

NOTES:

- FOR DRAWING LIST, SEE DWG G1.
- FOR ELECTRICAL LEGEND AND GENERAL NOTES, SEE DWG E1.
- FOR POWER ONE LINE DIAGRAM, SEE DWG E2. FOR WELL NO. 16 PLANS, SEE DWGS E5 THROUGH E7.
- FOR EXACT DUCT BANK ROUTING AND PADMOUNT TRANSFORMER LOCATION, SEE THE CIVIL DRAWINGS. PROVIDE TWO ADDITIONAL 4-INCH PVC SPARES AT ROADWAY CROSSING, CAP 5 FEET FROM EDGE OF PAVEMENT. DUCT BANK SHALL BE REINFORCED UNDER ROADWAY.

OVERHEAD PRIMARY DISTRIBUTION
POLE LINE MATERIALS LIST:

- HOT LINE CLAMP, W/ STIRRUP.
- OHIO BRASS PDV-100 ARRESTER OR EQUAL, HEAVY-DUTY, METAL OXIDE DISTRIBUTION CLASS, 3KV RATED, 2.55KV MCOV, COMPLETE WITH ALL MOUNTING HARDWARE.
- S&C TYPE "XS" OPEN DISTRIBUTION FUSED CUTOUT, 15KV, 95KV BIL, WITH 100 AMPERE FUSE HOLDER AND 25 AMPERE STANDARD SPEED FUSE LINK, COMPLETE WITH ALL MOUNTING HARDWARE.
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- SEALANT.
- COMPRESSION, SPLIT-BOLT, OR PARALLEL GROOVE CONNECTOR - SIZE AND TYPE AS REQUIRED.
- #4 AWG, BARE COPPER GROUND WIRE, CONNECT TO EXISTING POLE GROUNDING SYSTEM.
- CABLE GRIP.



REVISIONS		Symbol	Description	Date	Appr.

File Name: KT26E04.DWG	Plot Scale: 1:30	Date: 5/15/98
DESIGN BY: MDW/ALB	DRAWN BY: LEN	REVIEWED BY: RCT
DACA47-96-C-0013		

BLACK & VEATCH SPECIAL PROJECTS CORP OVERLAND PARK, KANSAS 66211	R. J. ROENNIGKE
SUBMITTED BY:	

KIRTLAND AIR FORCE BASE ADAL BASE WATER SYSTEM	ALBUQUERQUE, NEW MEXICO
WELL NO. 16 SITE PLAN	

SHEET NO. E4 OF 110	SEQUENCE NO. 57
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